

**WHAT IS CLAIMED IS:**

1. A voice interactive method comprising:

a) performing voice recognition upon an input voice signal to detect presence of a predetermined keyword;

5        b) upon detecting that the input voice signal contains the predetermined keyword, performing semantic recognition upon the input voice signal;

c) generating a response according to result of the semantic recognition performed in step b);

10       d) simultaneous with step b), calculating an idle time between a current input voice signal and a previous input voice signal; and

e) disabling the semantic recognition of the input voice signal, and repeating step a) when the idle time calculated in step d) is larger than a predetermined threshold.

2. The voice interactive method as claimed in Claim 1, wherein step c) includes:

20       generating a signal corresponding to the result of the semantic recognition performed in step b), and transmitting the signal to an electronic device such that the electronic device operates in response to the signal received thereby.

25       3. The voice interactive method as claimed in Claim 1, wherein step c) includes generating an artificial voice response corresponding to the result of the semantic recognition performed in step b).

4. The voice interactive method as claimed in Claim 1, wherein step c) includes generating an image that corresponds to the result of the semantic recognition performed in step b).

5 5. A selective voice recognition method comprising:

a) performing voice recognition upon an input voice signal to detect presence of a predetermined keyword;

b) upon detecting that the input voice signal contains the predetermined keyword, performing semantic  
10 recognition upon the input voice signal;

c) simultaneous with step b), calculating an idle time between a current input voice signal and a previous input voice signal; and

d) disabling the semantic recognition of the input  
15 voice signal, and repeating step a) when the idle time calculated in step c) is larger than a predetermined threshold.

6. A voice interactive system comprising:

a detecting module adapted for performing voice  
20 recognition upon an input voice signal to detect presence of a predetermined keyword;

a semantic recognition module coupled to and controlled by said detecting module so as to switch operation from a disabled mode to an enabled mode, where  
25 said semantic recognition module performs semantic recognition upon the input voice signal, when the presence of the predetermined keyword in the input voice

signal is detected by said detecting module;

5 a response module coupled to and controlled by said semantic recognition module so as to generate a response according to result of the semantic recognition performed by said semantic recognition module;

10 a timer module which operates simultaneously with operation of said semantic recognition module in the enabled mode so as to calculate an idle time between a current input voice signal and a previous input voice signal, and so as to determine whether the idle time calculated thereby is larger than a predetermined threshold; and

15 a mode switching module coupled to said timer module and said detecting module, said mode switching module enabling said detecting module to switch operation of said semantic recognition module from the enabled mode back to the disabled mode upon detection by said timer module that the idle time between the current input voice signal and the previous input voice signal is larger than the predetermined threshold.

20 7. The voice interactive system as claimed in Claim 6, wherein said response module includes an operation control module for generating a signal corresponding to the result of the semantic recognition performed by said semantic recognition module, said operation control module being adapted to transmit the signal generated thereby to an electronic device such that the

electronic device operates in response to the signal.

8. The voice interactive system as claimed in Claim 6, wherein said response module includes a voice response module for providing artificial voice response data corresponding to the result of the semantic recognition performed by said semantic recognition module.

9. The voice interactive system as claimed in Claim 6, wherein said response module includes an image response module for providing image data that corresponds to the result of the semantic recognition performed by said semantic recognition module.

10. The voice interactive system as claimed in Claim 6, wherein said detecting module includes:

a feature parameter retrieving unit for retrieving feature parameters of the input voice signal;

a voice model building unit coupled to said feature parameter retrieving unit for building voice models with reference to the feature parameters retrieved by said feature parameter retrieving unit;

a keyword voice modeling unit for storage of keyword voice models; and

a voice model comparing unit coupled to said voice model building unit and said keyword voice modeling unit for comparing similarity among built voice models and the keyword voice models.

11. The voice interactive system as claimed in Claim 10, wherein said semantic recognition module includes

a database containing a plurality of voice model samples,  
and a voice model comparing unit coupled to said  
detecting unit and said database for comparing  
similarity among the built voice models and the voice  
5 model samples.

12. A selective voice recognition system comprising:

a detecting module adapted for performing voice  
recognition upon an input voice signal to detect presence  
of a predetermined keyword;

10 a semantic recognition module coupled to and  
controlled by said detecting module so as to switch  
operation from a disabled mode to an enabled mode, where  
said semantic recognition module performs semantic  
recognition upon the input voice signal, when the  
15 presence of the predetermined keyword in the input voice  
signal is detected by said detecting module;

a timer module which operates simultaneously with  
operation of said semantic recognition module in the  
enabled mode so as to calculate an idle time between  
20 a current input voice signal and a previous input voice  
signal, and so as to determine whether the idle time  
calculated thereby is larger than a predetermined  
threshold; and

a mode switching module coupled to said timer module  
25 and said detecting module, said mode switching module  
enabling said detecting module to switch operation of  
said semantic recognition module from the enabled mode

back to the disabled mode upon detection by said timer module that the idle time between the current input voice signal and the previous input voice signal is larger than the predetermined threshold.

5 13. An electronic device comprising:

a sound pickup module adapted for receiving an input voice signal;

a detecting module coupled to said sound pickup module and operable so as to perform voice recognition upon  
10 the input voice signal to detect presence of a predetermined keyword;

a semantic recognition module coupled to and controlled by said detecting module so as to switch operation from a disabled mode to an enabled mode, where  
15 said semantic recognition module performs semantic recognition upon the input voice signal, when the presence of the predetermined keyword in the input voice signal is detected by said detecting module;

a response module coupled to and controlled by said  
20 semantic recognition module so as to generate a response according to result of the semantic recognition performed by said semantic recognition module;

a timer module which operates simultaneously with operation of said semantic recognition module in the  
25 enabled mode so as to calculate an idle time between a current input voice signal and a previous input voice signal, and so as to determine whether the idle time

calculated thereby is larger than a predetermined threshold; and

5 a mode switching module coupled to said timer module and said detecting module, said mode switching module enabling said detecting module to switch operation of said semantic recognition module from the enabled mode back to the disabled mode upon detection by said timer module that the idle time between the current input voice signal and the previous input voice signal is larger  
10 than the predetermined threshold.

14. The electronic device as claimed in Claim 13, wherein said response module includes an operation control module for generating a signal corresponding to the result of the semantic recognition performed by said  
15 semantic recognition module, said electronic device further comprising a control module coupled to said operation control module, said operation control module transmitting the signal generated thereby to said control module such that said control module operates  
20 in response to the signal.

15. The electronic device as claimed in Claim 13, wherein said response module includes a voice response module for providing artificial voice response data corresponding to the result of the semantic recognition  
25 performed by said semantic recognition module, said electronic device further comprising a reproduction module coupled to said voice response module for audibly

reproducing the artificial voice response data.

16. The electronic device as claimed in Claim 13, wherein  
said response module includes an image response module  
for providing image data that corresponds to the result  
5 of the semantic recognition performed by said semantic  
recognition module, said electronic device further  
comprising an imaging module coupled to said image  
response module for providing a visual indication of  
the image data.